

Name: _____

Date: _____

PC: Piecewise Functions

Part I. Graph each function. Find the domain and range for each piecewise function. Then, evaluate the function at the specified domain value.

1. $f(x) = \begin{cases} x + 5 & x < -2 \\ x^2 + 2x + 3 & x \geq -2 \end{cases}$

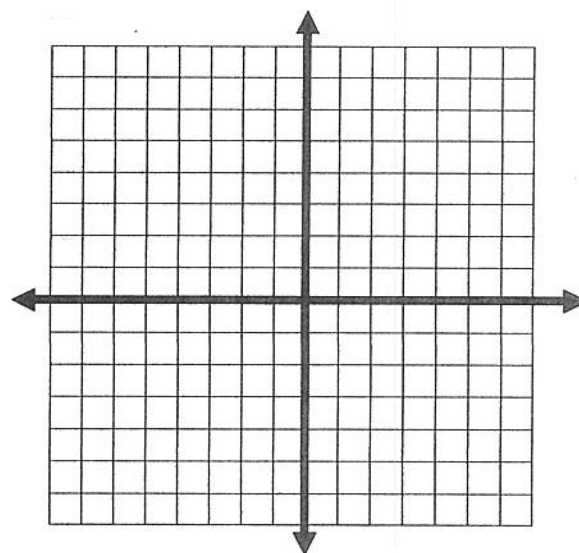
Domain: _____

Range: _____

$f(3) =$

$f(-4) =$

$f(-2) =$



2. $f(x) = \begin{cases} 2x + 1 & x \geq 1 \\ x^2 + 3 & x < 1 \end{cases}$

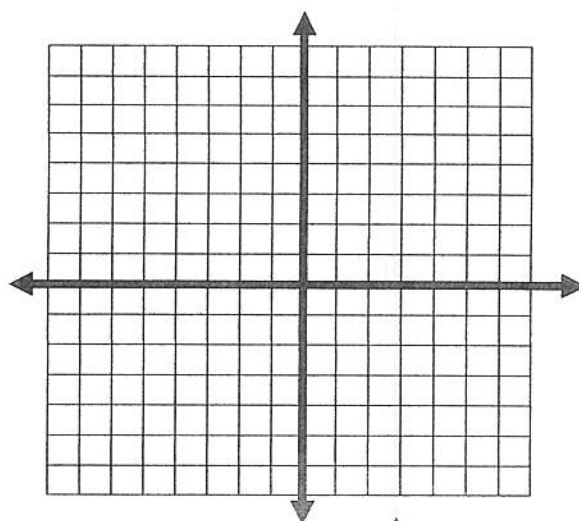
Domain: _____

Range: _____

$f(-2) =$

$f(6) =$

$f(1) =$



3. $f(x) = \begin{cases} -2x + 1 & x \leq 2 \\ 5x - 4 & x > 2 \end{cases}$

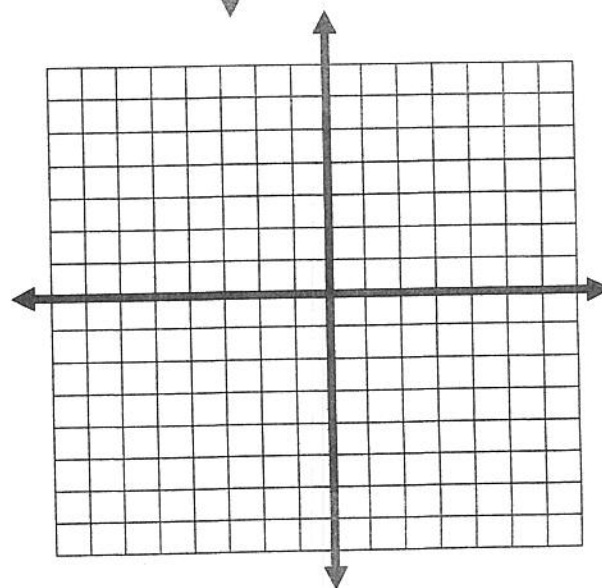
Domain: _____

Range: _____

$f(-4) =$

$f(8) =$

$f(2) =$



4.
$$f(x) = \begin{cases} x^2 - 1 & x \leq 0 \\ 2x - 1 & 0 < x \leq 5 \\ 3 & x > 5 \end{cases}$$

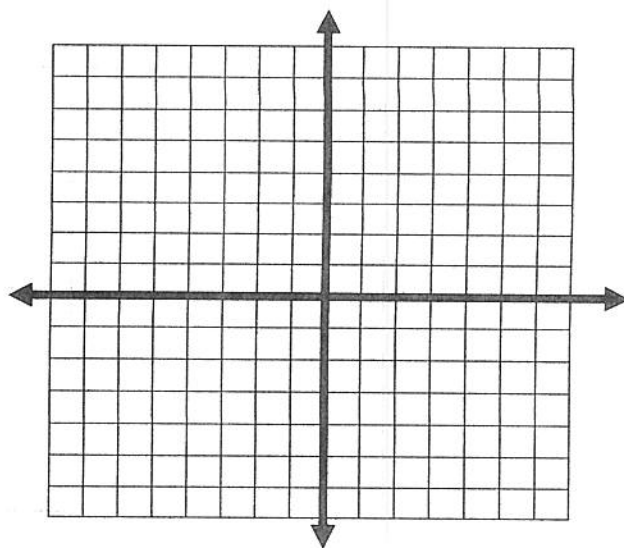
Domain: _____

Range: _____

$f(-2) =$

$f(0) =$

$f(5) =$



5.
$$f(x) = \begin{cases} x^2 & x \leq 0 \\ -x^2 + 4 & x > 0 \end{cases}$$

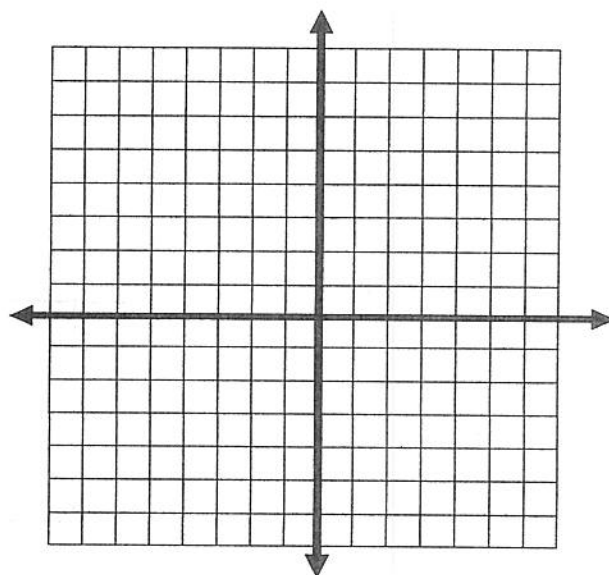
Domain: _____

Range: _____

$f(-4) =$

$f(0) =$

$f(3) =$



6.
$$f(x) = \begin{cases} 5 & x \leq -3 \\ -2x - 3 & x > -3 \end{cases}$$

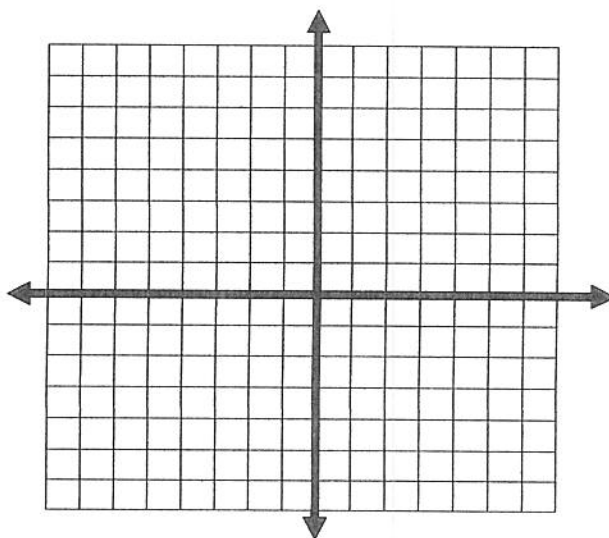
Domain: _____

Range: _____

$f(-4) =$

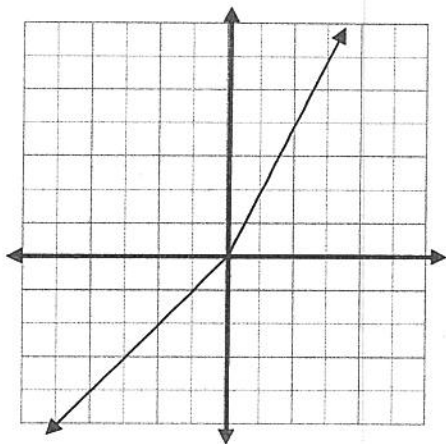
$f(0) =$

$f(3) =$



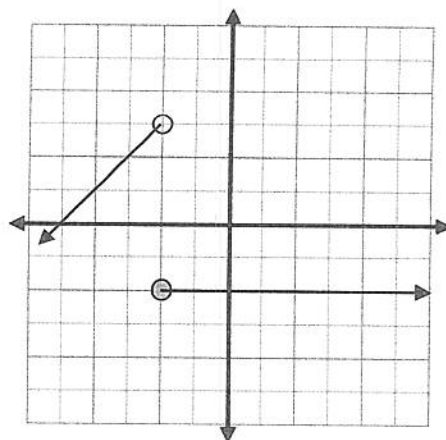
Part II. Evaluate the graph at the specified domain value.

7.



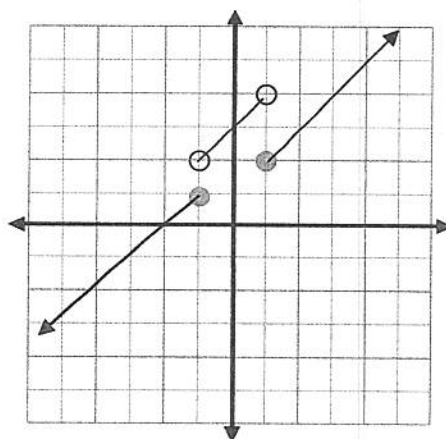
$$\begin{aligned} f(2) &= \\ f(-1) &= \\ f(-3) &= \end{aligned}$$

8.



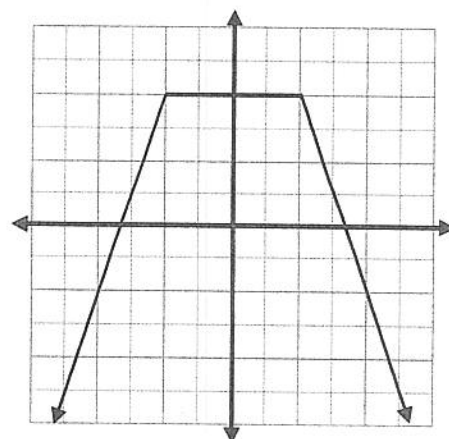
$$\begin{aligned} f(-2) &= \\ f(3) &= \\ f(-4) &= \end{aligned}$$

9.



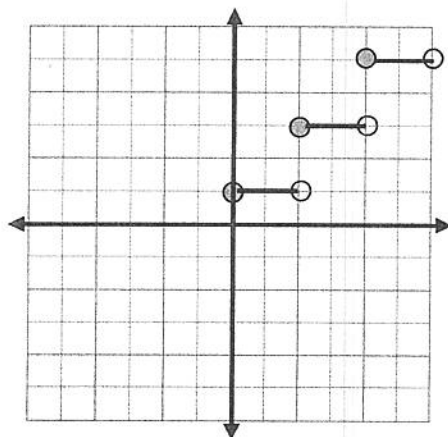
$$\begin{aligned} f(2) &= \\ f(-1) &= \\ f(0) &= \end{aligned}$$

10.



$$\begin{aligned} f(-2) &= \\ f(3) &= \\ f(-4) &= \end{aligned}$$

11.



$$\begin{aligned} f(2) &= \\ f(3) &= \\ f(4) &= \\ **f(6) &= \end{aligned}$$